INFORMATION TECHNOLOGIES, INTERNET, AND E-COMMERCE MARKET OPPORTUNITIES FOR U.S. SMALL- AND MEDIUM-SIZED BUSINESSES

ExportIT Argentina: An Update

U.S. DEPARTMENT OF COMMERCE
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Information on the Office of Information Technologies can be found at http://ExportIT.ita.doc.gov

FOREWARD

This report updates a previous study entitled ExportIT Latin America: Highlighting Argentina and Brazil which was published by the U.S. Department of Commerce s International Trade Administration in June 2000. Like its predecessor, it describes and analyses the trends, key issues, and events in information technology (IT), the Internet, and electronic commerce (e-commerce) adoption during 2001, highlighting Argentina. The report creates a framework from which U.S. small- and medium-sized enterprises (SMEs) can make educated business decisions about entering this market. It analyzes the most recent economic, cultural, and political factors influencing the adoption of information technology, the Internet, and e-commerce. The report highlights information and market opportunities relevant to U.S. SMEs in the IT industries. Suggested market entry strategies for smaller firms, U.S. Department of Commerce and other resources to assist these firms in their market entry endeavors, and contacts in the United States and Latin America are detailed in the original study.

The report is based on market research and analysis undertaken in Latin America in September 2001 by Tim Miles, Director, the Information Systems Division, in the Office of Information Technologies in the U.S. Department of Commerce International Trade Administration s Trade Development group. He interviewed computer hardware, software, Internet, and telecommunications equipment and services suppliers, trade associations, industry analysts, journalists, and government officials in Buenos Aires, Argentina. The work was actively supported by Ms. Silvia Yaber, the International Trade Administration s U.S. and Foreign Commercial Service (US&FCS) market specialist in this country. Information gathered from on-site interviews is supplemented with data from market research firms, government agencies, the U.S. and Foreign Commercial Service, and an extensive review of available literature on the Internet and in business and trade journals.

Since early December, the Argentine economy has undergone dramatic changes that radically affect all import transactions, including IT products and services. Default, devaluation and the conversion of existing dollar-denominated contacts to peso contracts have dramatically impacted commercial activity. Central Bank approval is now necessary for most foreign exchange transfers. Foreign exchange is authorized for IT hardware such as PCs, laptops, monitors, motherboards, plotters, printers and empty magnetic disks and imports can be paid for in advance. Foreign exchange for software imports is available no earlier than 45 days from the date of shipment. Certain accessories such as printer cartridges, fax paper and converters face foreign exchange payments delays of 180 days. Approvals for software license payments have been problematic. Updated information from the Commerce Department on the evolving payments situation and a complete list of foreign exchange availability by HS code can be found on www.ComercioUSA.org/Argentina by clicking on the banner entitled "Argentine Economic Crisis - Infomation for US exporters.

TERMS & ABBREVIATIONS

$	Unless otherwise noted, dollar figures cited in the report are U.S. dollars
2G	second generation
3G	third generation
ADSL	asynchronous digital subscriber line
AMPS	advanced mobile phone service
APEC	Asia Pacific Economic Cooperation
ARPL	average revenue per line
ARPS	average revenue per subscriber
ARPU	average revenue per unit
ASPs	application service providers
B2B	business-to-business
B2C	business-to-consumer
BSA	Business Software Alliance
BTA	Agreement on Basic Telecommunications Services
CA	certificate authority
CAGR	compound average growth rate
CAP	competitive access providers
CDPD	cellular digital packet data
CDMA	code division multiple access
CLEC	competitive local exchange carrier
CM	Contract manufacturer
COD	cash on delivery
CPP	calling party pays
CRM	customer relationship management
DECT	digital enhanced cordless telecommunications
DLD	domestic long distance
EDI	electronic data interchange
ERP	enterprise resource planning
FCC	Federal Communications Commission
FDI	foreign direct investment
FMC	fixed/mobile convergence
FTAA	Free Trade Agreement of the Americas
FWA	fixed wireless access

TERMS & ABBREVIATIONS continued

GATS	General Agreement on Trade in Services
Ghz	billion cycles per second
GPRS	general packet radio service
GPS	global positioning system
GSM	global system of mobile communications
HDSL	high bit rate digital subscriber line
IDB	Inter-American Development Bank
ICT	information and communications technologies
IDC	International Data Corporation
IDEN	Integrated Digital Enhanced Network
ILD	international long distance
IMF	International Monetary Fund
ISA	industry sector analysis
ISACs	Industry Sector Advisory Committees
ISDN	integrated services, digital network
ISP	Internet service providers
IT	information technology
ITA	Information Technology Agreement
ITA	International Trade Administration
ITU	International Telecommunications Union
LMDS	local multipoint distribution system
MERCOSUR	Mercado Comun del Sur, Common Market of the South
MEP	minimum estimated prices
MFN	Most Favored Nation
MMDS	multipoint multichannel distribution system
MSO	multi-service operator
MOU	minutes of use
NTDB	National Trade Data Bank
OECD	Organization for Economic Cooperation and Development

TERMS & ABBREVIATIONS continued

PDA	personal digital assistant
PPP	public-private partnership
PC	personal computer
SCM	supply chain management
SIIA	Software and Information Industry Association
SMR	special mobile radio
SME	small and medium-sized enterprise
SMS	short message service
TDMA	time division multiple access
UMTS	universal mobile telecommunications system
UNCITRAL	United Nations Conference on International Trade Law
USTR	Office of the U.S. Trade Representative
VAS	value added services
VAT	value-added tax
VOIP	voice over Internet protocol
VSAT	very small aperture terminal
WAP	wireless application protocol
WLL	wireless local loop
WTO	World Trade Organization

EXECUTIVE SUMMARY

The Argentine market for information technology (IT) products and services remains the third largest in Latin America after Brazil and Mexico, but has been in the doldrums over the past two years. As a result of Argentina s deepening recession and mounting debt crisis, IT spending slowed considerably in 2000 and declined by 21 percent to $2.8 billion by the end of 2001, according to estimates from International Data Corporation (IDC). Many large corporations placed their purchasing plans on hold, but some leading companies still tried to keep their IT operations up-to-date. The user sectors most affected were retail, telecommunications, energy, and services (except financial). Any chance of a healthy recovery in Argentina s IT purchases in 2002 has been dashed by the country s recent political upheaval and debt default. IDC is forecasting 51 percent decrease in IT spending to only $1.4 billion.

Given the considerable pent-up demand that exists in Argentina, the prospects for IT are bright if the Argentine economy is able to sustain a recovery in the near future which would encourage businesses and consumers to invest at a higher level once again. IDC believes that Argentina will bounce back very strongly in 2003 and experience the fastest growth in IT spending of all major Latin American nations over the next four years, rising at a 40 percent average annual rate to $5.2 billion by 2006.

Computer hardware is expected to lead the IT market out of its current downturn. Argentina s low level of personal computer (PC) usage, particularly in the small business and education sectors, and greater interest in the Internet may translate into enormous growth in demand for desktop and portable PCs, including handheld devices, in the future as these systems become more affordable. Efforts by the Argentine government and the private sector to spread PC use in schools and communities may help to stimulate the market as well. In turn, the peripherals segment of this market should profit from expanding PC demand. Sales opportunities for U.S. suppliers in this segment will be greatest in hard disk drives and laser and ink jet printers.

The ongoing build-out of Argentina s telecommunications infrastructure should have a strong positive effect on networking equipment demand over this decade. Argentine businesses and public sector agencies will become more networked through increased use of intranets and extranets, enabling them to boost the efficiency of their operations and cut costs.

Packaged software, like certain computer peripherals, should benefit from the eventual upsurge in PC sales and the growing involvement of the private and public sectors in electronic commerce and e-government, respectively. Argentine firms, in particular, should boost their investments in enterprise resource planning (ERP), back office solutions, and integration of front and back offices to improve their competitiveness in terms of cost and service. The major vertical market sectors will be banking and finance, logistics, and medical and health care management. However, software piracy remains a problem for U.S. suppliers, despite attempts

by the Argentine government and watchdog organizations to reduce infringement in corporations, small and medium-sized enterprises (SMEs), homes, and even within government agencies .

Growth in purchases of IT services will nearly match the average annual rates attained by computer hardware and packaged software through 2006, according to IDC. The trend among Argentine businesses toward outsourcing their systems and network management and data processing jobs should accelerate. As a result of the terrorist attacks on September 11th in the United States, corporations throughout the world, including those in Argentina, have had to focus on the security and vulnerability of the organizations. These concerns should drive not only sales of disaster recovery systems and high-end storage for backup, but also data hosting and security services Argentina. Finally, demand for systems integration should take off as public and private sector users implement projects they have placed on hold during the recession.

The Internet user base in Argentina has doubled over the past year, reaching 2 million people in mid-2001. The main factors driving this expansion have been the availability of cheaper PCs and reductions in Internet access fees, but telephone charges that can drive the total cost of access up to $20 to $30 per month still pose a barrier to wider use. Home use remains low at 14 percent of all Argentine households and is concentrated in Buenos Aires which means that the residential sector nationwide has been barely penetrated. While home connections still represent a majority of the user base, access from the workplace has been accelerating, particularly among users in the lowest socio-economic levels. Business access to the Internet is almost universal. Many enterprises have also increased their online presence by establishing websites and practically every large company has online storefronts. However, Internet usage has reportedly begun to stabilize and may even be slowing now as Argentina s worsening economy has taken its toll on consumer and business spending. Argentine public and private sector programs to stimulate Internet use in communities and schools have also been stymied thus far.

Although the birthplace of nearly half of all Latin American-based e-businesses, Argentina experienced a shakeout in Internet ventures over 2001 comparable to the one that occurred in the United States. The firms that filed for bankruptcy and closed were businesses that were unable to find additional rounds of financing and to survive the sharp decline in advertising revenues they relied on for the majority of their income base. By contrast, local survivors were generally the online subsidiaries of larger established companies and those able to attract foreign investment or partners. Internet Service Providers (ISPs) were especially hard hit and many of the more attractive of the local independent ISPs were bought up by better capitalized foreign firms eager to gain market share in Argentina. Despite this difficult climate, the prospects for customer and revenue growth among the remaining ISPs and other Internet businesses should be favorable in the future when the country recovers from its current economic woes. Argentina has one of the best educated populations in the region and the highest PC penetration rate, and should see growth once again in disposable income.

Dial-up access to the Internet is still dominant, but interest in broadband is mounting. While broadband services remain too costly for most residential users and have an insignificant share of all Argentine subscribers, they have become more attractive to businesses, particularly in Buenos Aires, which see the obvious advantages of greater bandwidth and continuous connection to the Internet. Thanks to the deregulation of the telecommunications market and the ensuing competition between service providers for customers, cable modem and asynchronous data subscriber line (ADSL) prices have plunged to a low of $60 per month now, but will need to drop further before broadband Internet access will become more widely used. The likelihood of greater broadband penetration is fairly good once the Argentine economy improves and telecommunication services providers resume investing in and upgrading their infrastructure. Along with other nations in the region, Argentina s broadband capacity will profit from new submarine fiberoptic cables that are being laid to connect Latin America with the United States.

Wireless Internet access is in its infancy. Industry observers feel that this technology has great promise in the future, given the relatively low PC penetration rate and the rapid growth of cellular telephones in this country. Whether or not this prediction comes to pass will depend on the ability of wireless handset providers to boost the capabilities of these devices and to make them more affordable.

Argentina s e-commerce market should remain well below $1 billion in 2001 due to the adverse effect of the country s economic woes and debt crisis on Argentine businesses getting involved in it and the online purchases of consumer products and services. Estimates from certain sources on the size of this market by 2004 range between $6.7 and $13 billion and may be optimistic if the Argentine economy does not rebound in the near future. In addition, the rapid expansion of e-business there depends on the use of the Internet spreading to lower income groups, consumers overcoming their concerns about digital security, and substantial improvement in delivery services. The Argentine private sector has begun taking steps to address and overcome digital security concerns and to expand delivery operations. However, much still needs to be done on both of these issues.

Business to business (B2B) electronic commerce accounts for the bulk of Argentina s electronic commerce revenues. Large enterprises were responsible for most of the B2B initiatives last year because they viewed them as effective ways to reduce costs and increase their competitiveness. Areas of particular interest were Supply Chain and Customer Relationship Management (SCM and CRM), and electronic procurement and distribution.

The use of business to consumer (B2C) electronic commerce has not really caught on in Argentina. As of mid-2001, only 4 percent of all small firms to 12 percent of large enterprises sold products and services online On the consumer side, just 33 percent of Internet users actually spent any money through the web sites of electronic retailers. However, online grocery stores and home banking fared well last year. B2C electronic commerce is unlikely to flourish over the near term not only because of digital security and economic concerns, but also because Argentina does not have a strong tradition of buying goods and services remotely.

Argentina s E-Plan was launched in 1997 to improve the efficiency of public administration and the delivery of services and to make government operations more transparent to the public. Federal government agencies have been working to place all of their operations online and have established a government website that gives citizens access to information on government ministries and services, other sites of interest, and late breaking news. While progress toward creating a true electronic government has been limited thus far, most observers believe that the Argentine government s commitment to the program is strong and that its implementation will continue when the economy picks up.

INFORMATION TECHNOLOGY

IT spending currently in the doldrums and hopes for recovery dashed in 2002

Argentina is the third largest information technology (IT) market in Latin America, after Brazil and Mexico. As a result of Argentina s deepening recession and mounting debt crisis, IT spending slowed considerably in 2000 and declined by 21 percent to $2.8 billion by the end of 2001, according to estimates from International Data Corporation (IDC). Many large corporations placed their purchasing plans on hold, especially for non-critical projects. Of all of the user sectors, financial services was reportedly the least affected and had some investment underway last year. Other major user sectors (retail, telecommunications, energy, and services) cut their budgets, but some leading companies still tried to keep their IT operations up-to-date.[1] Any chance for a healthy recovery in Argentina s IT purchases in 2002 has been dashed by the country s recent political upheaval and debt default. IDC is forecasting a 51 percent decrease this year to only $1.4 billion.

Computer and networking equipment hit the hardest

Computer hardware, which accounts for nearly half of Argentina s IT spending, was hit hard by the continuing economic downturn in 2001. According to IDC, demand for this equipment dropped 31 percent to $1.2 billion last year, after growing strongly in 2000. Purchases of computer peripherals, such as disk storage devices, terminals, and printers, fell off more sharply than systems. In the systems segment of this market, personal computers (PCs), workstations, and servers all registered significant declines in sales. The weakness in PC sales, which represented the majority of computer systems purchased in Argentina, was due to cutbacks in spending by both business and home users responding to the worsening recession, not market saturation as in the United States and several Western European nations. PC and server suppliers offered double- digit price discounts to boost sales during the second half of the year, but were unsuccessful in sparking demand. Networking equipment sales were also off about 42 percent to $193 million in 2001. IDC expects that both computer hardware and networking equipment demand will be down significantly once again in 2002. [2]

U.S. presence in Argentine hardware market is strong

U.S. firms have a strong presence in Argentina s hardware markets. Their share of Argentine computer imports (including both U.S.-origin and shipments by U.S. subsidiary operations in other countries) was about 70 percent in 2000. In the PC

1 Interview with Andres Reiman, Manager for Telecommunications and IT, Arthur Andersen, September 28, 2001

2 Press articles and market research firms reported a surge in Argentine PC purchases in the 4th quarter of 2001 in anticipation of the devaluation of the peso. However, the weak peso should reduce demand for PCs and other computer equipment further this year, given Argentina s dependence on imports.

segment of the market, imports from the United States have been decreasing substantially. However, many of the systems coming from Brazil and Mexico have 80 percent U.S. components, bear a U.S. brand name, and account for most of the systems imported into this country. The leading U.S. vendors (Compaq, HP, and IBM) have traditionally been successful in the corporate user sector, but have had trouble penetrating the home and small businesses where cheaper PC clones assembled by local integrators dominate. In the server and networking equipment segments, the U.S. market share has been nearly 90 percent, based on the technological leadership of U.S. suppliers.[3]

Computer equipment exports from the United States remain anaemic

U.S. computer equipment exports have remained anaemic over the past few years due to Argentina s poor economic climate and its 10 percent duties on imports from outside of Mercosur which have encouraged major U.S. IT companies, such as Compaq, HP, and IBM, to supply this market from their operations in Brazil. Shipments of computer systems and peripherals from the United States fell 36 percent since 1998 to $251 million in 2000. They continued their downward spiral through 2001, dropping 27 percent to only $183 million by year end. Peripheral exports accounted for most of this decline. The recent devaluation of the peso, the Argentine government s possible move toward a more restrictive economic policy, and an estimated 57 percent decline in computer hardware demand are likely to depress these exports further in 2002.

IT services and packaged software spending down, further weakening expected this year

Spending on IT services and software was also off in 2001, according to IDC estimates. IT services purchases decreased 4 percent to $1.1 billion, dragged down by sluggish demand for IT consulting, implementation services (such as systems integration), and IT training, and education. This segment s lot is expected to worsen substantially in 2002 as tight corporate budgets cut spending on these services nearly in half.

Spending on packaged software fell 9 percent to $384 million in 2001. Sales and investment growth in this area of the Argentine IT market was hampered not only by the deepening recession, but also by software piracy. Imports have traditionally accounted for much of this market with U.S. companies garnering a 56 percent share. Local firms have done mainly development, customization, or integration of foreign-supplied packages. Whatever they have made on their own has generally been low-cost management software, such as small Enterprise Resources Planning (ERP) packages, targeted at small- and medium-

3 Computers and Peripherals: Argentina , Industry Sector Analysis, U.S. Department of Commerce, November 7, 2000; Leading Sectors for U.S. Exports and Investments , Country Commercial Guide for Argentina 2002, U.S. Department of Commerce; and interview with Miguel Bertoglio, Account Executive, Gartner Group Latin America South, September 27, 2001

sized enterprises (SMEs).[4] Packaged software should experience the same malaise as other IT spending segments in 2002 with demand plunging an estimated 53 percent to $181 million.

Software piracy decreasing, but still a problem

The Argentine government has toughened its intellectual property rights laws in recent years and conducted several prosecutions of infringers. It has also been engaged in a dialogue with watchdog organizations, such as Argentina s Software Legal and Business Software Alliance and the Software and Information Industry Association (SIIA) of the United States, to reduce the use of pirated software in corporations, SMEs, homes, and even within government agencies. As a result, Software Legal claims that the piracy rate has declined from 62 percent of all software used in 1999 to 58 percent in 2000. However, about 95 percent of consumer software in Buenos Aires is pirated, and losses due to copyright infringement throughout Argentina have exceeded $275 million annually, according to U.S. industry estimates.[5]

Open source software gaining interest

The high rate of piracy in the public sector and government efforts to reduce costs and balance public spending have sparked a debate in Argentina over whether government agencies should continue to pay for proprietary packages or move to open source software. Representative Marcelo Dragan introduced legislation in the Argentine Congress in May 2001 to require all government offices to use open source software. Although this bill has not been passed, Argentina s equivalent of the Internal Revenue Service has already switched to Linux. It is reported that IBM and Sun Microsystems have also been working to move private sector customers to Linux and Sun s Java offerings so as to counter Microsoft s hold on the operating systems market. Software Legal has come out strongly against the use of free software and the pending legislation, arguing such a mandate would impede open competition and do away with a transparent bidding process where every program can be evaluated objectively.[6]

Prospects bright over long term for IT despite current gloom

Given the considerable pent up demand that exists in Argentina, the prospects for IT are

4 Leading Sectors for U.S. Exports and Investments , Country Commercial Guide for Argentina 2002, U.S. Department of Commerce

5 Software Piracy , International Market Insight, U.S. Department of Commerce, September 8, 2001 and Argentina: Law and Taxation , ebusinessforum.com, September 14, 2001

6 Argentina Mulls Open-Source Move , Wired News, May 4, 2001 and interviews with Fabiana Bonelli, Sales Manager for Internet Solutions, September 27, 2001; Luis Faraoni, Prosecretario Redaccion, Information Technologies Magazine, September 27, 2001; and Miguel Bertoglio, Account Executive, Gartner Group Latin America South, September 27, 2001

bright if the Argentine economy is able to sustain a recovery in the near future which would encourage businesses and consumers to invest at a higher level once again. IDC believes that Argentina will bounce back very strongly in 2003 and will experience the fastest growth in IT spending of all major Latin American markets, rising at a 40 percent average annual rate over the next four years to $5.2 billion by 2006.

Argentina s current penetration rate of more than 11 percent of the population using PCs is the highest in Latin America, but relatively small compared with the rate of around 60 percent in the United States, according to estimates from eMarketer, a U.S. internet and e-business statistics market research firm. This low level of usage, particularly in the small business and education sectors, and greater interest in the Internet may translate into enormous growth in demand for desktop and portable PCs, including handheld devices, in the future as these systems become more affordable. Efforts by the Argentine government and the private sector, such as the EDUC.AR program, to spread PC use in schools and communities may help to stimulate the market over the long term as well. Spending on servers and workstations should increase at a healthy, but much slower pace by comparison. The peripherals segment of the market should profit from expanding demand for PCs. Sales opportunities for U.S. suppliers in this segment will be greatest in hard disk drives and laser and ink jet printers.

The ongoing build-out of Argentina s telecommunications infrastructure should have a strong positive effect on networking equipment demand over this decade. Argentine businesses and public sector agencies will become more networked through the increased use of intranets and extranets, enabling them to boost the efficiency of their operations and cut costs.

Packaged software sales should benefit from the eventual upsurge in PC demand and the growing involvement of the private and public sectors in electronic commerce and e-government, respectively. Argentine firms, in particular, should increase their investments in enterprise resource planning (ERP), back office solutions, and integration of front and back offices to improve their competitiveness in terms of cost and service. The major vertical market sectors will be banking and finance, logistics, and medical and health care management.[7]

Growth in purchases of IT services will nearly match the average annual rate attained by packaged software and computer hardware through 2006, according to IDC. The trend among Argentine businesses toward outsourcing their systems and network management and data processing jobs should accelerate. As a result of the terrorist attacks on September 11th in the United States, corporations throughout the world, including those in Argentina, have had to focus on the security and vulnerability of their operations. These concerns should drive not only sales of disaster recovery systems and high-end storage for backup, but also data hosting and security services in Argentina. Finally, demand for systems

7 Leading Sectors for U.S. Exports and Investments , Country Commercial Guide for Argentina 2002, U.S. Department of Commerce

integration should take off as public and private sector users implement projects they placed on hold during the recession.

THE INTERNET

The Internet grew rapidly through mid-2001, but stabilizing now

The Internet user base in Argentina remains the third largest in Latin America after Brazil and Mexico and has doubled over the past year, reaching 2 million people in mid-2001, according to a recent survey conducted by D Alessio IROL, an Argentine market research firm.[8] Other estimates range from 2.5 million (International Telecommunications Union and Gartner Research) to as high as 3.9 million users (Nielsen/Net Ratings). This enormous growth has increased Internet penetration to 6.8 percent of Argentina s population of 37 million. The main factors driving this expansion have been the availability of cheaper PCs and reductions in Internet access fees. PCs cost about $800 or less and come with financing plans allowing payments to be spread over 24 to 36 months that make them more affordable to the upper and middle income classes.[9] While there are several free dial-up services in operation, users can obtain unlimited Internet access for less than $10 per month from other providers. However, telephone charges can drive the total cost of Internet use up to $20 to $30 per month. Users can also go to kiosks and cyber cafes that offer faster connections than dial-up access at home for only $1 per hour. Internet usage has begun to stabilize and may be even slowing down now though as Argentina s worsening economy has taken its toll on consumer and business spending.[10]

Home use remains low and concentrated in Buenos Aires; access from work accelerating

Argentina has nearly 1.3 million homes where at least one member of the household is an Internet user either at home, work, or cyber cafes, according to the June 2001 D Alessio IROL survey. This number translates into 14 percent of all Argentine households which means that the residential sector has been barely penetrated despite the significant growth in Internet users over the past year. In addition, these Internet user households continue to be highly concentrated in the Buenos Aires Metropolitan Area which accounts for 72 percent of this base versus only a 28 percent

8 Argentine Internet Users Doubled in One Year , D Alessio IROL press release, June 25, 2001

9 In July 2000, the Argentine government also launched a $1 billion low-interest loan program through Banco Nacion to enable people to purchase their own PCs for as low as $28 per month. However, partly due to the recession, the bank has only approved 25,000 applications. The program was recently revamped and established a goal to sell 6,000 PCs each month, or 20 percent of the country s annual PC sales. (Source: Argentina to Finance 1 Million PCs , Hector Calabia, The Industry Standard, May 30, 2000)

10 Interviews with Brad Johnson, President, Velocom, Argentina, September 27, 2001; Miguel Bertoglio, Account Executive, Gartner Group Latin America South, September 27, 2001; and Antonio Harris, Executive Director, Camara Argentina de Bases de Datos y Servicios en Linea (CABASE), September 28, 2001

share for the rest of the country. Home connections still represent a majority of the user base. But access from work has been accelerating, particularly among users in the lowest socio-economic levels, most of whom do not have home computers of their own.

Programs to stimulate Internet use in communities and schools stymied

The Argentine public and private sectors have launched programs to spread the use of the Internet in communities and schools. In 1997, the Argentine government announced a plan to give citizens access to the Internet through public terminals (cabinas publicas) located at government offices, post offices, and public libraries. While a few of these cabinas publicas were installed in Buenos Aires, the program has been delayed because of the country s economic woes.[11] The government also launched the EDUC.AR project in March 2000 to link the entire school system to the Internet by establishing an educational content portal, offering free IT training to teachers, and providing online connections for every primary and middle school within four years. In the first phase, it planned to hook up 7,000 schools by February 2002 at the latest. However, despite an $11 million private donation and a $230 million International Development Bank (IDB) loan, EDUC.AR has reportedly connected only a small fraction of Argentina s public schools to date. According to Equis, an Argentine consulting firm, the use of IT in primary and secondary education is at a low level---sixty percent of Argentine schools do not have PCs and 90 percent are not online. [12]

Business use almost universal

Business access to the Internet is almost universal in Argentina. Estimates as of June 2001 from Prince and Cooke, another leading Argentine market research firm, indicate that all large corporations and 95 percent of medium-sized and 86 percent of small firms were connected to the Internet by the end of 2000. Argentine businesses have also been increasing their online presence. More than 400 web sites were established in 2000 and a few more came online in the first quarter of 2001. The share of SMEs with web sites was projected to grow from only 37 percent in 2000 to 73 percent by the end of 2001. Practically every large company had online storefronts as well.[13]

The dotcoms demise

Although the birthplace of nearly half of all Latin American-based e-businesses, Argentina experienced a shakeout in Internet

11 Doing Ebusiness in Argentina: Internet Penetration and Infrastructure , ebusinessforum.com, November 5, 2001

12 La Nacion, April 11, 2000; Argentina Struggles to Get Online , Eleonora Rabinovitch, Wired News, July 7, 2001; interview with Fabiana Bonelli, Sales Manager for Internet Solutions, MetroRed, September 27, 2001; and Doing Ebusiness in Argentina: E-Business Marketplace , ebusinessforum.com, November 9, 2001

13 Primer Foro de Gobierno Digital en Argentina , Dr. Alejandro Prince, President, Prince, Cooke and Associates, July 5-6, 2001, and Argentina: Consumers Use Internet as Information Source , ebusinessforum.com, August 22, 2001

ventures over 2001 comparable to the one that occurred in the United States. There were 485 such companies in November 2000, employing around 6,000 workers and representing a total investment of $600 million. By May of last year, this number had dropped to about 100 due to the twin effects of greater investor caution around the world about online businesses and Argentina s deepening recession. The firms that filed for bankruptcy and closed were businesses that were unable to find additional rounds of financing and to survive the sharp decline in advertising revenues they relied on for the majority of their income base. Among the casualties were many of Argentine Internet pure plays and Teligent (U.S.) and PSI Net (U.S.), which has reportedly sold out to an Argentine investment group. By contrast, the local survivors were generally the online subsidiaries of larger established companies, such as the major media house Groupo Clarin, and those able to attract foreign investment or partners.[14]

The dotcom demise was particularly severe in the Internet Services Provider (ISP) business where a significant consolidation of players took place . Only 27 ISPs were in operation by August 2001 and several no longer provided updated information to their customers. The Argentine market remained mainly in the hands of three major firms which together held 53 percent share of the subscriber base. Ciudad Internet (owned by Groupo Clarin and focused primarily on the residential user sector) was the leader followed by Telecom Soluciones (owned by Telecom Argentina) and Advance (the ISP of Telefonica de Argentina). Other important ISPs included Impsat Fiber Networks, Buenos Aires-based satellite operator; Sinectis, Argentina s largest independent ISP; and AOL Latin America (a joint venture between AOL of the United States and Group Cisneros) which entered the market in 2001 both as an ISP and a content provider. Better capitalized foreign firms were very aggressive in their efforts to gain market share and bought up the more attractive of the local independent ISPs. If this climate continues, the bulk of existing Argentine ISPs may shrink to a dozen or so over the next few years through mergers, acquisitions, and strategic partnerships. These ISPs earned only minimal profits last year which forced them to offer value-added services such as web design and hosting to survive. However, the prospects for customer and revenue growth among the remaining ISPs and other Internet businesses should be favorable in the future once Argentina emerges from its current economic woes. The country has one of the best educated populations in the region and the highest PC penetration rate, and should see growth once again in disposable income.[15]

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14 Doing Ebusiness in Argentina: E-Business Sector under Strain , ebusinessforum.com, January 29, 2001; interviews with Daniel Helft, reporter, Industry Standard, September 28, 2001 and Antonio Harris, Executive Director, CABASE, September 28, 2001; and Doing Ebusiness in Argentina: Company Strategies , ebusinessforum.com, November 9, 2001

15 Internet Services: Argentina , Operational Management Report, Gartner Research, August 14, 2001 and Doing Ebusiness in Argentina: Internet Penetration and Infrastructure ebusinessforum.com, November 8, 2001

Dial-up access still dominant, but interest in broadband growing

Argentina had the second fastest growth in dial-up service in Latin America after Chile in 2000, according to the Yankee Group, a U.S. market research group. The number of dial-up connections rose 136 percent to 1.1 million lines, a 97 percent share of the Internet subscriber base.[16] While broadband services remain too costly for most residential users and have an insignificant share of all Argentine subscribers, they have become more attractive to businesses, particularly in Buenos Aires, which see the obvious advantages of greater bandwidth and continuous connection to the Internet. Thanks to the deregulation of the telecommunications market and the ensuing competition between service providers for customers, cable modem and asynchronous data subscriber lines (ADSL) prices plunged from around $100 to $120 per month during the first half of 2001 to as low as $60 per month now. These prices will need to drop to $40 per month before broadband Internet access will become more widely used. The likelihood of greater broadband penetration is fairly good once the Argentine economy improves and telecommunications services providers resume investing in and upgrading their infrastructure. Currently, according to data from Harte-Hanks, only 29 percent of Argentine enterprises have high-speed Internet access compared to 40 percent in Mexico, the leading business broadband user in Latin America. The Yankee Group expects that the number of cable modem connections in Argentina will increase at an average annual rate of 57 percent to 370,000 lines by 2005, while ADSL will grow 71 percent each year to 248,000 lines (Figure 4). Along with other nations in the region, Argentina s broadband capacity will profit from new submarine fiberoptic cables that are being laid to connect Latin America with the United States.[17]

Wireless Internet access in its infancy

As noted in the previous ExportIT report on this region, wireless Internet access over Wireless Local Loop (WLL) was introduced into Argentina in 1999. Argentine cellular service providers are now offering Wireless Application Protocol(WAP) and have reportedly attracted about 10,000 users thus far, according to Telecom Argentina. Banks are trying to stimulate WAP use further by allowing their customers to access their own services through it. Industry observers feel that wireless Internet access has great promise in the future, given the relatively low PC penetration rate and the rapid growth in cellular telephones in Argentina. Whether or not this prediction comes to pass will depend on the ability of wireless handset providers to boost the capabilities of these devices and to bring their cost down to an

16 Seven ISPs provide free access to almost 37 percent of total dial-up accounts in Argentina, according to CABASE, a local organization representing these businesses. (Source: Argentina: Land of Free ISPs , Ricardo Sametband, Wired News, October 3, 2001)

17 Internet Use Skyrocketing , International Market Insight, U.S. Department of Commerce, August 30, 2001, and Doing Ebusiness in Argentina: Internet Penetration and Infrastructure , ebusinessforum.com, November 8, 2001

affordable level.[18]

Electronic Commerce

Argentina s e-commerce market remains relatively small; near-term prospects uncertain

The Economist Group s Economics Intelligence Unit (EIU) ranked Argentina 31st out of 60 countries in its May 2001 study of e-business readiness and termed it an e-business follower , meaning that this country has begun to build an environment conducive to e-business, but has much more to do to stimulate substantial growth in electronic commerce. Indeed, Argentina has had one of the highest incomes per capita of any Latin American nation until recently and a higher PC and Internet penetration than larger economies like Brazil and Mexico. Increasing competition among telecommunication service providers has continued to reduce the cost of getting connected to the Internet. The legal climate for e-business within Argentina has also improved with the passage of a Personal Data Protection Law in November 2000 and a Digital Signatures Law in November 2001. However, Argentina s deteriorating economy and debt crisis have limited corporate spending and personal disposable income and, thus, have adversely affected the adoption of electronic commerce by many Argentine businesses and the online purchases of consumer products and services. For these reasons, Argentina s electronic commerce market should remain well below $1 billion in 2001.[19]

The Argentine Communications Secretariat calls for growth in electronic commerce of a staggering 193 percent each year to $13 billion in 2004 and predicts that Argentina will represent about 16 percent of all Latin American e-business by then (Figure 5). Emarketer is more conservative, projecting only about half of this annual increase to $6.7 billion over the same period. Both of these estimates may be very optimistic if the Argentine economy does not rebound in the near future. In addition, the rapid expansion of e-business in Argentina depends on the use of the Internet spreading to lower income groups, consumers overcoming their concerns about digital security, and substantial improvement in delivery services.[20]

18 Interviews with Andres Reiman, Manager for Telecommunications and IT, Arthur Andersen, September 28, 2001 and Eduardo Torres, Manager for Online Services, Telecom Internet, September 28, 2001

19 The Economist Intelligence Unit/Pyramid Research E-readiness Rankings , ebusinessforum.com, May 8, 2001; Doing Ebusiness in Argentina: Law and Taxation , ebusinessforum.com, September 14, 2001 and Argentina s Digital Signatures Law Will Bring Many Benefits , Terry Allan Hicks, gartner.com, November 21, 2001

20 Doing Ebusiness in Argentina: Country Profile , ebusinessforum.com, 2001 and Doing Ebusiness in Argentina: E-business Marketplace , ebusinessforum.com, November 9, 2001

Larger enterprises responsible for most B2B electronic commerce activity

Business to business (B2B) electronic commerce was expected to more than triple in 2001 and to reach an estimated $450 million, according to the Argentine Communications Secretariat (Figure 5). It still dwarfs business to consumer (B2C) electronic commerce, accounting for the bulk of Argentina s electronic commerce revenues. Large enterprises were engaged in a lot of B2B initiatives last year because they viewed them as effective ways to reduce costs and increase their competitiveness. Many of these companies were particularly interested in Supply Chain and Customer Relationship Management (SCM and CRM). Multinational manufacturers, such as BASF and Ford, and ARCOR, an Argentine firm which is the largest candy manufacturer in South America, required suppliers to handle orders over the Internet and were considered leaders in B2B efforts. The petroleum industry, pharmaceutical companies, and food retailers were not only involved in SCM, but also electronic procurement and distribution. However, SMEs continued to be slow to interact with other firms electronically and to establish an online presence since they were hardest hit by Argentina s economic problems and, as a result, had very tight IT budgets.[21]

The Argentine agricultural sector became interested in the Internet and B2B last year. Farmers accessed several vertical portals that were established to provide them with information on weather forecasts from satellites, livestock vaccinations, and other agricultural inputs. They were also engaged in trading everything from agricultural products to futures and options on some of these sites. According to one estimate, roughly 10 percent of Argentina s farmers had begun using the Internet to help manage their businesses.[22]

B2C electronic commerce unlikely to flourish over near term

The use of business to consumer (B2C) electronic commerce has been limited in Argentina and will remain so in the near future. Prince and Cooke, a leading Argentine market research house, estimated that businesses selling online in Argentina ranged from only 4 percent of all small firms to12 percent of large enterprises as of mid-2001. On the consumer side, D Alessio IROL reported that, while seventy one percent of Argentine Internet users visit web sites of online retailers, only 33 percent of them actually spend any money. In fact, online sales in Argentina lagged well behind those in the more vibrant Brazilian market. B2C revenues were expected to reach just $65 million in 2001, according to the Argentine Communications Secretariat (Figure 5). Their growth has been and will

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21 Doing Ebusiness in Argentina: E-business Marketplace , ebusinessforum.com, November 9, 2001 and interviews with Fabiana Bonelli, Sales Manager for Internet Solutions, MetroRed, September 27, 2001; Miguel Bertoglio, Account Executive, Gartner Group Latin America South, September 27, 2001; Dr. Eduardo D Alessio, President, D Alessio International Research Online (IROL), September 27, 2001

22 Source: Doing Ebusiness in Argentina: Company Strategies , ebusinessforum.com, November 9, 2001

continue to be hindered over the near term mainly by ongoing concerns about digital security and the dampening effect of Argentina s financial crisis and worsening recession on disposable income. Argentina has also lacked a strong tradition of buying goods and services remotely since the average Argentine prefers face-to-face transactions and enjoys shopping in local stores and malls. Mail order shopping, for example, is still in its infancy in this country even though it has been going on for decades in the United States.[23]

Online grocery stores and home banking were bright spots for B2C electronic commerce in 2001. Disco, one of Argentina s largest supermarket chains which is owned by Dutch multinational Royal Ahold, was particularly successful in selling its products online. The firm was able to circumvent many of the problems associated with B2C by using the home delivery service its has offered for several years and allowing customers to pay cash on delivery or by credit card. Home banking has also been booming recently. The Argentine government s current limit on bank withdrawals has stimulated Argentines to pay their bills, taxes, loans, and rent online through their banks. Banelco reported that electronic payments through its network site, pagomiscuentas.com, rose 500 percent in December 2001 alone.[24]

Efforts underway to address and overcome digital security concerns

As noted above and in the previous ExportIT report on this region, the issue of digital security has been one of the major barriers to the growth of B2C electronic commerce in Argentina. Although 29 percent of the population (generally the wealthiest) have credit cards and 10.6 million of them were in circulation as of March 2001, Argentinians have been reluctant to use them for Internet purchases because of concern about credit card theft and fraud. Estimates of the share of Internet users actually buying online in this country have ranged from a low of 11 percent to a high of 28 percent through mid-2001. One of these surveys showed that 71 percent of its Internet user sample remained wedded to doing their shopping at stores even after acquiring information on goods and services online. Some people also use p

23 Doing Ebusiness in Argentina: Country Profile ; ebusinessforum.com, 2001 and Doing Ebusiness in Argentina: E-business Marketplace ; ebusinessforum.com, November 9, 2001; and interview with Brad Johnson, President, Velocom Argentina, September 27, 2001

24 The Industry Standard: Online Grocery Stores Popular in Argentina , ebusinessforum.com, April 30, 2001; Doing Ebusiness in Argentina: Consumers Use Internet as Information Source , ebusinessforum.com, August 22, 2001; Latin American Online Retailing to Reach $1.28 Billion in 2001", BCG Media Release, Boston Consulting Group, November 13, 2001; and Argentines transfer to E-Banks , Ricardo Sametband, Wired News, January 14, 2002

ones and faxes rather than their PCs to place orders.[25]

Several Argentine e-businesses have found innovative ways to overcome consumer fears about online theft and fraud. Digicuenta and Novacash have established e-payment web sites that allow customers to deposit money into a virtual account they create using an email address and to make secure purchases online with a credit card they subsequently receive. Other firms, such as PrintedPay and e-PagoFacil, have systems that let buyers print out a bill from a participating website and then pay in cash at a bank. These digicash companies are reportedly going to invest $50 million in these efforts over the next few years. Online retailers have also been flexible in their approach to customer payment to stimulate B2C sales. For example, Gabarino, Argentina s leading home-appliance distributor, has its customers choose products on the Internet and has a telemarketer call them to arrange delivery and the method of payment. [26]

The Argentine government has taken steps to address data privacy protection and security issues as well. As noted previously, it has enacted both a Personal Data Protection Law and a Digital Signature Law. The Personal Data Protection Law covers personal data, including fair information practices and consumer rights, and sets up an ombudsman with the power to impose fines ranging from $1,000 to $100,000 on those who violate the law. The actual effects on trans-border data flows remain unclear as Argentina has yet to enact implementing regulations and has not begun concerted enforcement of the law. Nevertheless, the law does have the potential to interrupt the transfer of personal data to nations that do not meet Argentina s standard for privacy protection. The Digital Signature Law, based on the UNCITRAL (United Nations Conference on International Trade Law) Model Law on Electronic Signatures and passed by the Argentine National Congress in November 2001, has put into effect a procedure and a mechanism to ensure that all online transactions will be much more secure. When implemented in early 2002, it will regulate certificate authorities (CAs) and all aspects of signature management and document recording. The law mandates that the federal government use digital signature technology for all laws, decrees, administrative decisions, resolutions, and sentences. [27]

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25 2001 Global eCommerce Report, Taylor Nelson Sofres, June 2001; Argentine Internet Users Doubled in One Year , D Alessio IROL Press Release, June 25, 2001; Doing Ebusiness in Argentina: E-business Marketplace , ebusinessforum.com, September 14 and November 9, 2001; and interview with Luis Faraoni, Prosecretario de Redaccion, Information Technologies Magazine, September 27, 2001

26 Sources: Argentina: Consumers Use Internet as Information Source , ebusinessforum.com, August 22, 2001 and Argentina: Digicash Gains Ground , ebusinessforum.com, August 30, 2001

27 Doing Ebusiness in Argentina: Law and Taxation , ebusinessforum.com, September 14, 2001 and Argentina s Digital Signatures Law Will Bring Many Benefits , Terry Allan Hicks, gartner.com, November 21, 2001

Delivery services improving, but further upgrading is needed

Delivery has been another major impediment to electronic commerce. Argentina has the second largest postal system in Latin America, but service is not always efficient and reliable and has been adversely affected by the fall off in postal usage during the recession. Private courier services have emerged, partly in response to the needs of online purchasers, and international couriers have been expanding their operations in this country. For example, DHL is currently investing $20 million in Argentina to improve its regional presence. Several Argentine Internet retailers have also addressed this problem by establishing their own delivery services which are largely concentrated in the major urban centers of Buenos Aires, Cordoba, and Mendoza. However, a radical upgrading of distribution services is still needed before significant growth in electronic commerce can occur.[28]

Electronic Government

Argentina s E-Plan has made limited progress

The Argentine government developed a very ambitious E-Plan in 1997 that included not only the EDUC.AR project mentioned previously in this report, but also the National Modernization of the State program. The goal of this program is to create an electronic government , thereby improving the efficiency of public administration and the delivery of services and making government operations more transparent to the public. Its key features will be the establishment of a paperless government administration, 24 hour-a-day remote access to state services, and the development of portals that will provide citizens with better and faster access to government information. Federal government agencies have also been working to place all of their purchasing online. However, progress on the program has been limited thus far since the Argentine government has been preoccupied with handling the nation s debt crisis and deepening recession. Currently, citizens can access the government s website, www.info.gov.ar, to find information on government ministries and services, other sites of interest, and late-breaking news. Most observers feel the Argentine government s commitment to the program is strong and expect that its implementation will continue when the economy picks up.[29]

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28 Doing Ebusiness in Argentina: E-business Marketplace , ebusinessforum.com, September 14, 2001

29 Interview with Antonio Harris, Executive Director, CABASE, September 28, 2001 and Doing Ebusines in Argentina: E-Business Marketplace , ebusinessforum.com, November 9, 2001